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HEAT EXCHANGER

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PURPOSE: To provide an uniform heat exchange action throughout the whole surface of a heat exchanger and to sharply improve heat exchange capacity, by providing a flat metallic pipe through which heat-exchangeable fluid is caused to flow and a metallic foam located in the metallic pipe and uniformizing the flow of the fluid.

CONSTITUTION: An evaporator is provided with a bent beltform flat metallic pipe 10, and each fin 20 is engaged between parallel pipe parts 11 of the flat metallic pipe 10 by soldering. A blockform metallic foam 30 is engagedly mounted longitudinally of the flat metallic pipe 10 in the flat metallic pipe 10, and the outer surface of the metallic foam 30 is uniformly secured on the inner surface of the flat metallic pipe 10 by soldering. A foaming metallic material is formed of an aluminum material, being light and excellent in heat transfer, so as to have the coefficient of foam of 60W90%. A skeleton is formed in a three-dimensional uniform netty shape like a sponge, and when a refrigerant flows, the refrigerant uniformly generates turbulence due to a number of the meshes of the metallic foam 30 through the whole of the metallic foam 30.

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